patients with and without dose escalation, respectively, and CDN$29,504 and CDN$25,449 for infliximab in patients with and without dose escalation, respectively. **CONCLUSIONS:** Results of this RAMQ database analysis illustrate that, in a real-world setting and over a long period of time, CD patients treated with infliximab had a significantly higher proportion of dose escalation compared with patients treated with adalimumab. In both recommended and adjusted dosing, adalimumab demonstrated significant cost savings over infliximab.

PGI29

THE USE OF REPEAT SCREENING COLONOSCOPY IN A NATIONWIDE PRIVATELY INSURED POPULATION

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OBJECTIVES: Assess the frequency and appropriateness of early repeated colonoscopy **METHODS:** Patients undergoing a colonoscopy in 2005 were identified using paid claims data from a nationwide privately insured population. Patients were screened to be between the ages of 50 and 64 years with at least one year continuous enrollment. Colonoscopies with evidence of positive results [e.g., paid claims for biopsy, fulguration, snare, etc.], or with evidence suggesting clinical indications three months prior to the screening were defined as non-screen tests. The cumulative probability of repeated screening colonoscopy was then documented and the related risk factors for appropriate and inappropriate repeat screening tests were assessed using survival analysis and Cox proportional hazard regression models. **RESULTS:** A total of 51,400 colonoscopies were identified from the paid claims in 2005 for patients age 50-64. The majority of these procedures were found to have either positive results [25,029 (48.7%)] or evidence of clinical indications for the procedure [17,842 (34.7%)]. Among 8,529 apparent screening colonoscopies with negative results, 8% had a repeated colonoscopy within six years, the majority of which were associated with evidence that the repeated test could be justified (78.7% with indications and 21.3% without indications). The initial regression analysis identified risk factors of repeated colonoscopy with indications including age over 55 (HR: 1.2; 95%CI: 1.0–1.5) and having at least one comorbidity (HR: 1.2; 95%CI: 1.0-1.5). The risk factors of repeated colonoscopy without indications include male (HR: 1.53; 95%CI: 1.07-2.20) and having at least one comorbidity (HR: 1.57; 95%CI: 1.04-2.31). **CONCLUSIONS:** The majority of all colonoscopies in 2005 were found not to be routine screening exams. The risk of a repeated screening colonoscopy within 6 years is low [8%]. Among these repeat procedures, the majority was done because of the existence of clinical indications.

MUSCULAR-SKELETAL DISORDERS – Clinical Outcomes Studies

PMS1

FLUOROQUINOLONE-ASSOCIATED TENDON-RUPTURE: A SUMMARY OF REPORTS IN THE FOOD AND DRUG ADMINISTRATION'S (FDA'S) ADVERSE EVENT REPORTING SYSTEM

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OBJECTIVES: Tendon rupture is associated with fluoroquinolones and listed in boxed warnings. We reviewed and summarized reports of tendon rupture associated with fluoroquinolones as reported in the FDA's Adverse Event Reporting System (FAERS) through September 26, 2012. **METHODS:** We queried the FAERS for reports of tendon rupture involving each fluoroquinolone. Signal detection consisted of empiric Bayes geometric mean (EBGM), with 95% confidence intervals from initial marketing date for each drug. For a signal to be considered significant, minimum criteria are: reports of 3 or more cases, the low end of the 95% confidence interval must be 2.0 or greater. **RESULTS:** There were 2539 tendon rupture cases. Most cases were reported with levofloxacin (61.25%) followed by ciprofloxacin (23.87%) and moxifloxacin (9.05%). Signal detection results for fluoroquinolones were: ciprofloxacin (EBGM=20.0, 95%CI=18.2-21.6), enoxacin (EBGM=13.2, 95%CI=4.2-29.7), gatifloxacin (EBGM=5.0, 95%CI=3.5-7.0), levofloxacin (EBGM=55.2, 95%CI=52.3-58.0), moxifloxacin (EBGM=13.3, 95%CI=11.7-15.1), norfloxacin (EBGM=9.6, 95%CI=6.5-13.5), ofloxacin (EBGM=8.2, 95%CI=6.3-10.2), gemifloxacin (EBGM=1.9, 95%CI=0.7-4.5), lomefloxacin (EBGM=2.3, 95%CI=0.94-5), and trovafloxacin (EBGM=0.3, 95%CI=0.08-1.1). FAERS event date timelines suggest lower risk of tendon rupture for gemifloxacin (n=5), lomefloxacin (n=5), and trovafloxan (n=1), with initial reports in 2006, 2005, and 2000, respectively. The mean age was 59.6± 5.1. The most common concurrent drugs were corticosteroids (levofloxacin=27.1%, enoxacin=20%, gatifloxacin =18.2%, moxifloxacin=14.7%, ciprofloxacin=10.4%, ofloxacin=5.3%, and norfloxacin=2.4%). Analysis by the reporting country revealed that most cases were reported from the US (70%) followed by Japan (8.2%), Great Britain (3.7%), France (.9%) and Canada (.42%). **CONCLUSIONS:** Tendon rupture was reported with most fluoroquinolones. Significant signals existed for all flouroquinolones except gemifloxacin, lomefloxacin, and trovafloxacin, which potentially have lower risks. However, FAERS data are dependent upon utilization and MedWatch reporting rates. As stated in the boxed warning, as stated in the boxed warning, concurrent corticosteroids increases risk of tendon rupture

PMS2

RISK AND COST-EFFECTIVENESS ANALYSIS OF ADVERSE ATRIAL FIBRILLATION OUTCOME IN TREATING OSTEOPROSIS

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OBJECTIVES: The purpose of this study was to investigate the risk of getting atrial fibrillation in a year after receiving the first medication and analyze cost-effectiveness in avoiding the adverse event among alendronate, raloxifene, and hormone replacement therapy. **METHODS:** We used the 2000-2008 National Health Insurance Research Database (NHIRD) to identify 10,353 patients who had the first medication with drugs and classify them into three groups (7439 patients defined as those who used alendronate and 2077 patients with raloxifene as well as 837 patients with hormone replacement therapy). Cox proportional hazard model was used to estimate the hazards of getting atrial fibrillation among three drugs. Also, this study used the cost-effectiveness analysis to estimate the incremental cost effective ratio in avoiding the adverse event as they were treated by different treatments. **RESULTS:** The Cox regression analyses demonstrated that alendronate group (HR=1.52, 95%CI: 0.55-4.19) and raloxifene group (HR=1.38, 95%CI: 0.46-4.21) had higher risk in getting atrial fibrillation than hormone replacement therapy group, but there were not statistically significant. As to the cost-effectiveness analysis in avoiding 1% chance of the adverse event, the average medication expenditure of hormone replacement therapy group would increase 2,916.7 USD (ICER=2,916.7, 95%CI: 1063.3–5,102.9) and 2,266.7 USD (ICER=2,266.7, 95%CI: -411.5–5,068.1), comparing to alendronate group and raloxifene group respectively. **CONCLUSIONS:** People with osteoporosis that were treated by bisphosphonate or raloxifene are better in terms of overall economic cost than those who used hormone replacement therapy.

PMS3

SYSTEMATIC REVIEW AND META-ANALYSIS OF OPEN SPINE FUSION VERSUS MINIMALLY INVASIVE SPINE FUSION FOR THE DIAGNOSIS AND TREATMENT OF LUMBAR SPINE CONDITIONS

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OBJECTIVES: Transforaminal Lumbar Interbody Fusion is used to treat mechanical back-pain and radicular pain associated with spondylolisthesis due to arthritis, herniated disc or spinal stenosis. This procedure is performed either in the traditional open technique (o-TLIF) or using minimally invasive (m-TLIF) techniques. The goal of this study was to conduct a meta-analysis to compare various outcomes when comparing treatments for lumbar spine conditions using the "standard" open fusion (o-TLIF) versus minimally invasive surgical fusion (m-TLIF). **METHODS:** Prospective and retrospective cohort studies comparing o-TLIF to m-TLIF were identified by searching PubMed, EMBASE, the Cochrane libraries, and reference lists from selected studies. Of the 15 selected for full-text review, 4 were excluded because they used the wrong surgical technique, did not include m-TLIF, or did not measure the desired outcomes. Effects sizes (relative risks and standardized mean differences) were calculated using both fixed- and random-effects models. **RESULTS:** Eleven cohort studies (N=554 patients) were included in the review (N=259, o-TLIF; and N=294, m-TLIF). Average follow-up ranged from 12 – 24 months. Random-effects models were used due to the high heterogeneity across studies for each outcome (53.1%-93.5%). Use of m-TLIF was associated with a 420 mL decrease in blood loss when compared to o-TLIF (standardized mean difference (SMD) = -1.57, 95% CI: -2.14 to -0.99, p<0.0001). Operating Room (OR) time was significantly longer with a 33 minute increase for those undergoing m-TLIF (SMD=0.90, 95% CI: 0.24 to 1.55, p=0.007). **CONCLUSIONS:** While most outcomes did not differ between the two procedures, m-TLIF was associated with significantly lower blood loss despite longer OR time. In the appropriate clinical population, m-TLIF may be the favorable TLIF procedure for treatment of back pain and radicular pain in patients with spondylolisthesis due to arthritis, herniated disc or spinal stenosis.

PMS4

PATIENT OUTCOMES OF HIP RESURFACING COMPARED TO TOTAL HIP ARTHROPLASTY: A SYSTEMATIC REVIEW

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OBJECTIVES: Hip resurfacing (HR) was developed for younger, more active patients, as a surgical alternative to total hip arthroplasty (THA). The safety of metal-on-metal HR is controversial with concerns expressed over adverse events and early device failure. We conducted a systematic review comparing primary HR to conventional THA for patients with hip osteoarthritis (OA). Outcomes of interest were adverse event rates, early failure (revision/reoperation within 5 years), and post-operative component alignment. **METHODS:** Studies were identified through electronic databases, grey literature and reference lists of included studies. Inclusion criteria were: English language studies published after 1996 reporting adverse events, complications, safety issues or revision rates with respect to adults with primary hip OA, who underwent either primary HR or THA. Outcomes of interest included: revision, reoperation, dislocation, infection/sepsis, femoral neck fractures, time to revision, rates of early failure, mortality, and post-operative component alignment. Results were reported per 1000 person years for comparability and stratified by age, publication date and market status (in-use and discontinued). **RESULTS:** A total of 7421 abstracts were identified and screened. Of these 384 full text articles were reviewed, 236 of which were included in this analysis. For all devices, those in-use and discontinued, dislocations were more frequent in THA, while revisions and reoperations were more frequent in HR. An analysis of only devices currently in-